UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,668	12/29/2000	Ali N. Saleh	M-7165-5P US	7626

33031 7590 12/18/2006		EXAMINER
CAMPBELL STEPHENSON ASCOLESE, LLP		NGUYEN, HANH N
4807 SPICEWOOD SPRINGS RD.		
BLDG. 4, SUITE 201	ART UNIT	PAPER NUMBER
AUSTIN, TX 78759	2616	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/18/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

		Application No.	Applicant(s)
Office Action Summary		09/750,668	SALEH ET AL.
		Examiner	Art Unit
		Hanh Nguyen	2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>*Amendment filed on 10/10/06*</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>*1-152*</u> is/are pending in the application.

    4a) Of the above claim(s) <u>*47-112,148 and 149*</u> is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>*1-46 and 113-147, 150-152*</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

The amendment filed on 10/10/06 has been entered. Examiner is confusing the status of the following claims:

In the Remarks indicated by applicant on page 37, of the claims 1-150 which are now pending, claims 47-112, 148, 149 are withdrawn from consideration. However, as seen in the list of currently amended claims filed on 10/10/06, claims 47, 54, 57, 59-61, 73, 81, 86, 89, 91, 94, 105 are pending and currently amended. Claims 148, 149 are amended and its statuses indicated in a bracket as (**Currently amended;Withdrawn**). Are the claims 148, 149 **currently amended** or **withdrawn** ?. Examiner would like to know the status of these claims clearly defined before the making consideration. Examiner still considers claims 47 and 81.

Claims 1-6, 10-30, 34-47, 54, 58, 62, 73, 81, 86, 90, 94, 105, 113-150, 151, 152 have been considered and mood in view of current art.

Claim Objections

Claims 54, 57, 59, 62, 73, 86, 91, 94, 105 are objected to because of the following informalities: claim 54 depends on claim 53 which has been withdrawn; claim 57 depends on claim 56 which has been withdrawn; claim 59 depends on claim 58 which has been withdrawn; claim 62 depends on claim 61 which has been widthdrawn; claim 73 depends on claim 72 which has been withdrawn; claim 86 depends on claim 85 which has been widthdrawn; claim 91 depends on claim 90 which has been withdrawn; claim 94 depends on claim 93 which has been widthdrawn; claim 105 depends on claim 104 which has been withdrawn.

Examiner assumes that claims 54, 57, 59, 61, 62 and 73 now depend on their parent claim

47. Claim 86 is assumed to depend on claim 81. Claim 91 is assumed to depend on claim 81.

Claim 94 is assumed to depend on claim 81. Claim 105 is assumed to depend on claim 81.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 31-33, 115 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

In claim 31, it is not clearly stated what is meant by "if said intermediary node receives a

message of a remote port failure at a node comprising said virtual path" ? . It is not understood to

state "a node comprising said virtual path".

Claims 32, 33 are rejected because they depend on claim 31.

In claims 3 and 115, it is not clearly stated what is meant by analyzing a response to said

resource request packet.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-6, 10-30, 34-47, 54, 58, 62, 73, 81, 86, 90, 94, 105, 113-150, 151, 152 are

rejected under 35 USC 103(a) as being unpatentable over Bentall et al. (US pat. 6,282,170 B1) in

view of Croslin et al. et al. (US pat. 5,737,319).

In claims 1, 47, 81, 113, 146, Bentall et al. discloses a method for restoring a virtual path

(select a restoration route) in an optical network (see abstract and col.6, lines 35-37; col.3, lines

25-30), the method comprising broadcasting a plurality of resource request packets to a plurality

of nodes in the optical network (fig.3, step 100; col.5, lines 48-52; sending messages along

alternate routes to determine capacity of each link of the alternate routes through a network);

dynamically identifying a plurality of nodes with resources, as a result of said broadcasting,

necessary to support the virtual path (see fig.9, col.7, line 60 to col.8, line 25; in response to

receiving flood messages, chooser node assigns spare capacity on virtual paths and

acknowledges each virtual path with sufficient capacity); identifying an intermediate node

without /lacking resources necessary to support the virtual path (see fig.9, step 144, col.8, lines

20-24; by updating database of alternative routes at the chooser node, the chooser node identifies

virtual paths that are lack of spare capacity on the alternate routes. It is inherent that once the VP

is lack of capacity, nodes located on the VP are also lack of capacity; see further in col.9, lines

30-35); dynamically determining an alternate physical path comprising ones of the nodes with

resources (fig.4, steps 113 & 114; select one of the alternative routes and allocate capacity on

this selected alternative route; see col.5, line 62 to col.6, line 5); configuring the alternate

physical path by establishing a communication connection between the nodes with resources (

fig.9; step 142; col.8, lines 15-18; a shortest route with sufficient capacity is acknowledged to the

sender); and restoring the virtual path by provisioning the virtual path over said alternate

physical path (see fig.11, col.9, lines 35-45; sender re-routes thevirtual path along the selected

route when the route acknowledgement is received). Bental discloses

Even though Bentall et al. does not explicitly disclose dynamically determining an

alternate physical path; but Bental discloses the nodes are interrogated to gather information for

possible routes without having to preplan for preferred routes (see col.3, lines 8-15). In order to

show that dynamically determining an alternate phycal path is a well-known skill in the art,

Croslin disclose, in its Relate Art, col.1, lines 50-65 and col.2, lines 40-47, that if a transmission

segment suddenly become severed, dynamic network restoral application directs switching

elements to select one of alternate transmission segments to replace the severed one, wherein the

replaced transmission segment has enough resources to support the network transmission

without disconnecting (dynamically identify nodes and dynamically determining an alternate

path with sufficient resource). Therefore, it would have been obvious to one skilled in the art to

apply the dynammic network restoral application of Croslin et al. with the network restoral of

Bentall et al. so that network restoral is performed in real time and dynamically. The motivation

is to avoid the dependend of the limit preplanned routes and reduce the time delay.

In claims 151, 152, Bental et al. discloses ascertaining whether the intermediate node

without resources lacks a resource necessary to support the virtual path (with the discussion in

claim 1 and 113, chooser node updates its database to determine VPs that are lack of capacity).

In claims 2 and 114, Bentall et al. discloses detecting a failure in the virtual path (fig.4,

step 110; col.5, lines 60-65).

In claims 3 and 115, Bentall et al. discloses the detection of the failure is done by

receiving a failure message packet (fig.9, step 140, receiving flood messages); dynamically

identifying nodes with resources comprises acknowledging the failure message (fig.9, step 142;

acknowledging shortest route for each path with sufficient capacity by sending message back to

sender. Note that route with sufficient capacity inherently includes nodes coupled therewith);

In claims 4-6, 116 and 117, the limitations of these claims have been addressed in

claim 1.

In claims 10, 22, 36, 118, 126 and 137, Bentall et al. discloses restoring the VP (the

restoration functions) is performed by the first node/intermediate node (fig.2; sender node 63), an

intermediate node (chooser node 64; fig.2). See col.6, lines 20-25.

In claims 11, 23, 24, 37, 54, 62, 73, 86, 94, 105, 119, 127 and 138, Bentall et al. discloses

in claim 1 that a failure of a route connecting two nodes results in a new selected alternate route

inherently changes the failed port associated with the failed route) and update the provisioning in

the node data base (see fig.9, step 143; col.8, lines 20-25). For further clarification, application

is directed to fig.5, col.6, lines 10-55 which address the claimed limitations:

the failure is a local physical port port between an intermediate node and an adjacent

node; determining a different port of a link (see fig.5, col.6, lines 10-55; routing table in database

74 indicates which link is used by an appropriate VP); initiating a physical port switch request (

switching function 71 refers to routing table to pass communication between links); provisioning

the VP to the different physical port (reroute to alternative route would inherently switch to

another physical port).

In claims 34, 45, 135, 144, Bental et al. discloses if said intermediary node receives a

valid restore path request, updating path information in a node database (fig.9, step 143),

allocating resources requested for said virtual path (fig.9, step 142), and forwarding said restore

path request to all eligible adjacent nodes (fig.9, step 144).

In claims 35, 46, 136 and 145, Bental et al. discloses if the intermediary node receives an

invalid restore path request, responding with a negative acknowledpnent (fig.9, step 144; means

that a node uses all resources to restore a failed VP until all VPs are block. Inherently, when VPs

are block due to insufficient resources, a Negative acknowledgement should be received; see

col.8, lines 20-25).

In claims 12, 13, 14, 15, 16, 17, 18, 19, 26, 38, 39, 58, 90, 120, 121, 122, 123, 124, 125,

128, 129, 139 and 140, the limitations of these claims have been addressed in claim 1 because as

the original VP is failed, it is most likely that the alternative routes is required with previous

steps performed in indepedent claims 1, 47, 891 and 113. When an alternative routes in Bental is

setup with sufficient capacity, it is inherent that the alternative routes has to be routed via

different links having different ports (See col.8, lines 27-35; any new VPs to be setup during the

duration of the link failure would be rerouted to avoid the failed part). Bental et al. discloses the

alarm raised to commence restoration (see fig.8). It is a well-known skill in to art to raise alarm

periodically between a first time period , a second time period depend on how bad the traffic

conditions. Motivation would be prevent critical network failures.

In claim 25, Bental has discloses changing a state of VP to down (fig.8, lines 25-35; an

alarm is raised indicating a link is failed inherently shows that the VP is down); generating a

restoration request (see fig.9, step 140; flood messages), forwarding restoration to adjacent

nodes (see fig.9; step 141); waiting for a response to the restoration request for a predetermined

of time (fig.10, step 155; tandem node awaits acknowlegments to the flood messages).

In claims 30, 43, 44, 131, 132, 134, 142 and 143, the limitations of these claims have been addressed in claim 1.

In claims 15, 16, 20, 21, 28, 29, 41 and 42, Bental et al. does not disclose the first and the second predeetermined time intervals are defined during provisioning of VP. Predetermining time intervals to restore failed VP is well-known in the art for purpose of detecting whether there is any available resources allocated for VP.

In claims 27 and 40, Bental et al. does not disclose if the response to the restoration request is not received within the predefined threshold times, releasing resources of VP. Inherently, the requested resource will be released after a predefined time has elapsed since the restoration request was sent. Therefore, it would have been obvious to set a predefined time to determine whether the resource for the VP.

In claims 147-150, with the limitations that have been discussed in claims 1 and 113, Bental et al. further discloses receiving an allocation request at an intermediate node (see fig. 10, step 149; tandem node receiving flood message from sender); if said resource necessary to support said virtual path is available on said intermediate node, allocating said resource necessary to support said virtual path on said intermediate node (see fig. 10, step 153; tandem nodes reserves spare capacity for restoration process); forwarding said allocation request from said tandem node (see fig. 10, step 154, tandem node broadcasts message on all links) (see col. 8, line 65 to col. 9, line 27), and, if said resource necessary to support said virtual path is unavailable on said intermediate node, returning a negative response from said intermediate node (see col. 9, lines 30-35; if there is no capacity to be assigned, the tandem node will pass the message to the chooser node to reflect that there is a lack of spare capacity).

Claims 7-9 are rejected under 35 USC 103(a) as being unpatentable over Bentall et al.

(US pat. 6,282,170 B1) in view of Croslin et al. et al. (US pat. 5,737,319), and further in view of

Chaudhuri (6,324,162B1).

In claim 7-9, Bental et al. does not disclose restoring of said virtual path is completed in

less than 2 seconds; less than 250ms; and less than 50ms. Chaudhuri discloses the time required

to determine restoration channel is 20-30 ms. Therefore, it would have been obvious to one

ordinary skilled in the art to restore the failed VP in less than 2 seconds, 250ms, or 50 ms as

needed in design system.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
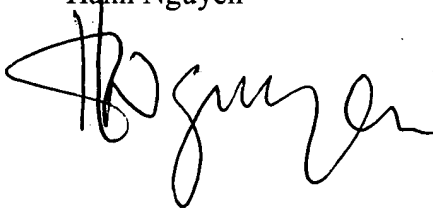
A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Nguyen whose telephone number is 571 272 3092. The examiner can normally be reached on Monday-Thursday from 8:30 to 4:30. The examiner can also be reached on alternate.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Field, can be reached on 571 272 2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hanh Nguyen

**HANH NGUYEN
PRIMARY EXAMINER**